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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/622,850 | 07/18/2003 | Willard Charles Raymond | A126.116.102 | 4768 |

25281 7590 03/23/2007
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| EXAMINER |
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KEENAN, JAMES W

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| ART UNIT | PAPER NUMBER |
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3652

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS | 03/23/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| | | | |
|------------------------------|------------------------|--------------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/622,850 | RAYMOND, WILLARD CHARLES | |
| | Examiner | Art Unit | |
| | James Keenan | 3652 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-10 and 12-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-10 and 12-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 March 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/7/07 has been entered.

2. The disclosure is objected to because of the following informalities: the brief description of the drawings should be amended to indicate the existence of new figures 3A, 3B.

Appropriate correction is required.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 23 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recitation of "the load mechanism" lacks antecedent basis.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-4, 6, 7, 18, and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuke et al in view of Nakamura, (both previously of record).

Note that the following rejection utilizes a slightly different interpretation of the Fuke et al reference than previously set forth, but which still corresponds to applicant's claim terminology.

Fuke et al show a wafer ring feeding apparatus (a wafer ring being considered structurally equivalent to a "film frame", in that it comprises a wafer sheet or film 2 surrounded by a ring or frame 1), comprising cassette 10 having a plurality of slots for the film frames and which is loaded on an elevator 13 (considered to be a "load port", absent any further limitations), robot end effector 58 for grabbing a selected film frame from the cassette or returning a film frame to the cassette, and a frame support 80 including opposing support arms 81, 81a each containing plural horizontally adjustable contact elements 86a, 86A, 86b, 86B, respectively, which help guide the film frames in or out of the cassette, wherein the contact elements are laterally movable relative to the support arm.

Fuke et al does not show moving the frame support vertically relative to the cassette in the manner set forth. Rather, the cassette moves on an elevator relative to the frame support.

Nakamura shows a similar system for conveying flat circular articles in and out of cassettes, wherein one embodiment (figures 1-3) shows the cassette 8 mounted on a vertically movable support 7 relative to a vertically stationary robot end effector 2, but in figures 4-5, shows another embodiment in which the cassette is stationary while the robot is vertically movable.

It would have been obvious for one of ordinary skill in the art at the time of the invention to have modified Fuke et al such that the frame support (and robot end effector) was vertically movable relative to a stationary cassette, rather than vice-versa, as Nakamura explicitly discloses this as an alternative equivalent means of performing the same function in the same environment, the use of either of which would work equally well.

Re claim 2, Fuke et al shows the frame support to be U-shaped (see fig. 4c) rather than Y-shaped. Nevertheless, it would have been obvious for one of ordinary skill in the art at the time of the invention to have additionally modified the apparatus of Fuke et al to include this feature, as this would be a simple design expediency which would neither require undue experimentation nor produce unexpected results, and since applicant has not disclosed the feature as solving any particular problem, it appears the invention would work equally well either way.

Re claims 3-4 and 6-7, Fuke et al show that the frame support includes the support arms extending from a base arm (fig. 4c) and actuators 87, 88 (also note alternate embodiment, col. 8, lines 6-15) for horizontally moving the contact elements relative to the base arm.

Re claim 18, the contact elements of Fuke et al are considered to be "vertically compliant", as broadly claimed, by virtue of their connection to air cylinder 92.

Re claim 21, the contact elements slide along shafts 82, 84 which are in turn secured to the support arms, rather than being secured to shafts which are extendably connected to the support arms. Nevertheless, to have further modified the apparatus of Fuke et al by securing the contact elements to the support arms with an extendable shaft would have been a mere design expediency, since it has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art.

Re claim 22, a pivotal mounting of the contact elements in place of an extendable shaft is considered an obvious alternate equivalent design expediency.

Re claim 23, as best understood, Fuke et al as modified above already shows an elevator mechanism for moving the base arm of the frame support, with the support arms extending from the base arm.

7. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuke et al in view of Nakamura, as applied to claim 1 above, and further in view of De Anda (previously of record).

Fuke et al as modified does not show the contact elements to comprise rollers.

De Anda shows an apparatus for feeding flat articles from a stack, including opposing support arms 58 each having plural spaced apart contact elements comprising rollers 130, 132.

It would have been obvious for one of ordinary skill in the art at the time of the invention to have also modified Fuke et al by utilizing rollers as the spaced apart contact elements, as suggested De Anda, as this would reduce friction on the articles as they are moved in or out of the cassette. Note that De Anda, like Fuke et al, shows the support arms to be horizontally movable relative to the articles for aligning purposes. It is also noted that applicant's own disclosure teaches that the rollers could be substituted with a planar surface such as sliders (page 6, line 30 to page 7, line 2), which is, of course, merely the reverse of the substitution set forth in the rejection. It is still further noted that a low friction planar surface is essentially functionally equivalent to a series of rollers spaced so close together that the distance therebetween becomes insignificant. Additionally, note that the contact elements of Fuke et al are divided into distinct guiding and supporting portions. The vertical guiding portion of the contact elements is used when the wafer ring is stationary, but not when it is being conveyed (see col. 5, line 40 to col. 6, line 9). Thus, the rollers (analogous to the support portion 86a, 86b) of Fuke et al when modified as described above would not need to provide a guiding function; that could continue to be done by the guiding portion of the contact elements, or a reasonable modification thereof, in conjunction with the rollers.

Re claim 9, Fuke et al as modified does not show the rollers to be spring-loaded. Nevertheless, it would have been obvious for one of ordinary skill in the art at the time of the invention to have further modified the apparatus of Fuke et al to include this feature, as this would simply be a design expediency which would neither require undue

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experimentation nor produce unexpected results, since applicant has not disclosed that it solves any particular problem.

8. Claims 10, 12-16, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuke et al in view of Nakamura and Aoki et al (previously of record).

Although Fuke et al as modified shows the ability to horizontally position the contact elements, this is not done based on the determined diameters of different sized film frames.

Aoki shows that it is well known to horizontally adjust guide rails in response to the determined width of different sizes of lead frames.

It would have been obvious for one of ordinary skill in the art at the time of the invention to have further modified the method of Fuke such that the size (diameter) of film frames in the cassette could be determined and the distance between the contact elements adjusted correspondingly thereto, as taught by Aoki, as this would enable the method to be easily performed on film frames of differing sizes and thus provide increased usefulness and flexibility of the system.

9. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fuke et al in view of Nakamura and Aoki et al, as applied to claims 10 and 12-16 above, and further in view of De Anda.

This rejection utilizes the same obviousness rationale as set forth above in paragraph 7 with respect to claim 8.

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10. Applicant's arguments with respect to claims 1-4, 6-9, 18 and 21-23 have been considered but are moot in view of the new ground(s) of rejection.

11. Applicant's arguments with respect to claims 10, 12-17, 19, and 20 have been fully considered but they are not persuasive.

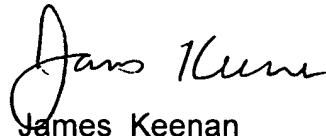
Applicant argues that Fuke et al would have no need to adjust to different film frame diameters. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Keenan whose telephone number is 571-272-6925. The examiner can normally be reached on (schedule varies).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Mackey can be reached on 571-272-6916. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



James Keenan
Primary Examiner
Art Unit 3652

jwk
3/22/07